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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,356	12/10/2001	Saied Bozorgui-Nesbat	40146-182899	1657

7590 05/04/2004

Venable LLP  
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Washington, DC 20043-9998

EXAMINER
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ENG, GEORGE

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/006,356

Applicant(s)

BOZORGUI-NESBAT, SAIED

Examiner

George Eng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is in response to the amendment filed 1/22/2004 (paper no. 5).

### ***Claim Rejections - 35 USC § 112***

2. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In this case, the specification fails to disclose to assign at least one letter of an alphabetical system based on the frequency occurrences of the at least one letter in a typical body of written, wherein the alphabetical system comprising at least one most frequently occurring letter that is entered by more than one activation of the same key and at least one less frequency occurring letter that is entered by activation of at least two different keys. As an example of letters "D" and "H", the letter "D" is one most frequency occurring letter comparing with the letter "H" according to the specification (figure 2), but the letter "H" is entered by more than one activation of the same key and the letter "D" is entered by activation of at least two different keys, i.e., key 5 and key 8, according to the specification (page 9, line 25 through page 10 line 14). Thus, the specification is inadequately written to provide an enabling description to support for claims 1-21.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4-6, 11-14, 16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kitamura (US PAT. 6,231,252).

Regarding claim 1, Kitamura discloses a keypad as shown in figure 7 for entering letter comprising an array of keys with each key being assigned to at least one letter of an alphabetical system based on the frequency occurrence of the least one letter in a typical body of written work, wherein the alphabetical system comprises at least one most-frequently-occurring letter that is entered by one key activation associated with the same key, and at least one less-frequently-occurring letter that is entered by at least one key activation associated with each of at least two different keys (col. 9 line 30 through col. 10 line 65). Note while Kitamura also teaches the single key-pressing operation can be defined as an operation in which the same key is pressed twice (col. 6 line 57 through col. 7 line 10). This is enough to met unduly broad claim.

Regarding claim 4, Kitamura discloses one or more letters being assigned to each key in accordance with a position array having defined position elements (figures 1 and 7).

Regarding claim 5, Kitamura discloses the position elements include a central position and at least one peripheral position that point to an adjacent key (figure 11).

Regarding claim 6, Kitamura discloses a most-frequently-occurring letter being assigned to the central position (figure 1, 10), and a less-frequently-occurring letter being assigned to the peripheral position (figure 1, 20).

Regarding claim 11, the limitations of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 12, the limitations of the claim are rejected as the same reasons set forth in claim 6.

Regarding claim 13, Kitamura discloses at least one least-frequently-occurring letter being assigned in accordance with at least one element of the position array (figures 1,7 and 11).

Regarding claims 14 and 16, Kitamura discloses the array of keys comprising M rows and N columns and the number of letter in the alphabetical system equal to L, wherein M=4, N=3 and the keys that are not assigned to a letter, i.e., "\*" key, is used for selecting an alphanumeric operation mode (figure 11, 501-512 and col. 15 lines 13-16).

Regarding claim 19, the limitations of the claim are rejected as the same reasons set forth in claim 1.

5. Claims 25-26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Terracina (US PAT. 4,008,793).

Regarding claim 25, Terracina discloses a keypad for entering data symbols comprising an array of keys having at least one key assigned to a data symbol in accordance with a position

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array that has defined position elements (figures 3a-3b), including at least one peripheral position that point to a non-adjacent key, wherein at least one data symbol (i.e., Z or Q) is entered by key activation sequence of a key and a non-adjacent key that is pointed by a peripheral position of a key (figure 4a and col. 1 lines 34-61).

Regarding claim 26, Terracina teaches the non-adjacent key being specified by a wrap around position of the array of keys such that a data symbol “z” is entered when key “A” and key “I” are pressed (figure 4a).

Regarding claim 28, Terracina teaches a key activation including touching of substantially the same or different locations of a surface (col. 1 lines 47-64).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-3, 17-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura (US PAT. 6,231,252) in view of Lehtinen et al. (US PAT 6,518,957 hereinafter Lehtinen).

Regarding claims 2-3, Kitamura differs from the claimed invention in not specifically teaching that each key is a soft key presented to a user on a display device in accordance with a program executed on a device processor so that key activation requires at least one touching and

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at least one un-touching of a touch sensitive surface on the display. However, Lehtinen teaches a portable communication device including a touch sensitive screen (6, figure 2) for entering and displaying data so that key activation requires at least one touching and at least one un-touching of a touch sensitive surface on the touch sensitive screen in order to makes user friendly (col. 1 lines 18-67 and col. 2 line 27 through col. 3 line 10). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kitamura in presenting each key as a soft key on the display device in accordance with the program executed on the device processor, as per teaching of Lehtinen, because it makes user friendly so that data is entered via the touch sensitive screen.

Regarding claims 17-18, the limitations of the claims are rejected as the same reasons set forth in claims 2-3.

Regarding claims 20-21, the limitations of the claims are rejected as the same reasons set forth in claims 2-3.

8. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura (US PAT. 6,231,252) in view of Danish et al. (US PAT. 5,339,358 hereinafter Danish).

Regarding claims 7-8, Kitamura discloses a less-frequency-occurring letter being entered by a two-key sequence (col. 7 lines 9-10) and one or more non-letter symbols or characters being assigned to each key in accordance with position elements of the position array, wherein a non-letter symbol or character is entered by a two-key sequence (figure 11 and col. 15 lines 10-20). Kitamura differs from the claimed invention in not specifically teaching to enter two-key sequence requiring first activation the key assigned to the less-frequently-occurring letter or the

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non-letter symbol or character and then activating the key to which the position element of the less-frequently-occurring letter or the non-letter symbol or character points to. However, Danish teaches a rapid and visually simple method for entering character using a telephone keypad by entering two key sequence requiring first activation the key assigned to either the letter or non-letter symbol and then activating the key to which the position element of the letter or non-letter symbol point to (6 lines 9-48). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kitamura in entering two-key sequence requiring first activation the key assigned to the less-frequently-occurring letter or the non-letter symbol or character and then activating the key to which the position element of the less-frequently-occurring letter or the non-letter symbol or character points to, as per teaching of Danish, because it makes user friendly by providing a rapid and visually simple method for entering character.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura (US PAT. 6,231,252) in view of Terracina (US PAT. 4,008,793).

Regarding claim 9, Kitamura differs from the claimed invention in not specifically teaching a wrap-around extension pointing to a non-adjacent key if a peripheral position points to no adjacent key. However, Terrachina a technique for inputting letter using a two adjacent keys and single key for forming most of the letters and numerals and two non-adjacent keys for forming the remainder of the letters and numerals if a peripheral position points to no adjacent key (figures 4a-4c). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kitamura in pointing to a non-adjacent key if a

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peripheral position points to no adjacent key, as per teaching of Terrachina, in order to make the ease of use.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura (US PAT. 6,231,252) in view of Grover et al. (US PAT. 5,818,437 hereinafter Grove).

Kitamura differs from the claimed invention in not specifically teaching  $M=N=3$ . However, Grover discloses to use a 3x3 keypad, i.e., 9 data keys for entering English letter (figure 1, 103) in order to produce a highly efficient keyboard. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kitamura in using 9 keys, i.e., 3 rows and 3 columns, for entering English letter, as per teaching of Grove, in order to produce a highly efficient keyboard.

11. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover et al. (US PAT. 5,818,437 hereinafter Grover).

Grover discloses a keypad (103, figure 1) for entering English letters comprising an array of nine keys numbered key 1 through key 9, wherein each key is assigned with one or more letter. Although the keys assignment of Grover is different from the claimed invention, it is old and well known in the art of rearranging keys assignment in the keypad depending upon a user's need. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Grover in having same keys assignment as the claimed invention in order to make user friendly.

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12. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terracina (US PAT. 4,008,793) in view of Lehtinen et al. (US PAT 6,518,957 hereinafter Lehtinen).

Regarding claim 27, Terracina differs from the claimed invention in not specifically teaching that each key is a soft key presented to a user on a display device in accordance with a program executed on a device processor. However, Lehtinen teaches a portable communication device including a touch sensitive screen (6, figure 2) for entering and displaying data so that key activation requires at least one touching and at least one un-touching of a touch sensitive surface on the touch sensitive screen in order to makes user friendly (col. 1 lines 18-67 and col. 2 line 27 through col. 3 line 10). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kitamura in presenting each key as a soft key on the display device in accordance with the program executed on the device processor, as per teaching of Lehtinen, because it makes user friendly so that data is entered via the touch sensitive screen.

### ***Response to Arguments***

13. Applicant's arguments filed 1/22/2004 (paper no. 5) have been fully considered but they are not persuasive.

In response to applicant's argument of the rejection under 35 USC 112, first paragraph, that one of the ordinary skill would recognize the frequency table shown in figure 2 merely a representative of various tables that may be used in the operation of the claimed invention, the examiner disagrees because the specification is clearly inadequately written to provide an enabling description to support for claims 1-21 such that the character representing the letters are

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disposed of each corresponding key as shown in figures 3, 4 and 5 are not based on the letter frequency table of figure 2 , which is different from the description in the specification (page 9 lines 20-24). Thus, the claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In response to applicant's argument Kitamura fails to disclose an array of keys with each key being assigned to at least one letter of an alphabetical system based on the frequency of occurrence of at least one letter in a typical body of written work, Kitamura clearly teaches to classify twenty six English letters in different groups based on the frequency of occurrence in a typical body of written work (col. 9 line 45 through col. 10 line 6). Thus, one of ordinary skill in the art would recognize Kitamura teaching to assign letter in each key in the array based on the frequency of occurrence of the least one letter in a typical body of written work.

In response to applicant's argument Kitamura fails to disclose at least one most frequency occurring letter that is entered by more than one key activation associated with the same key and at least one less frequency occurring letter that is entered by at least one key activation associated with each of at least two different keys, Kitamura clearly teaches to enter a high appearance letter, i.e., T, by a single key pressing operation (col. 9 lines 59-63) and the single key pressing operation can be also defined as an operation in which the same key is pressed again after the prescribed period of time being elapsed form the timing when the same key is pressed (col. 6 lines 57-63), and to enter a low appearance letter, i.e., G, by pressing two different key (col. 7 lines 9-10). Thus, Kitamura clearly teaches the claimed limitations.

In response to applicant's argument Terracina fails to disclose at least one symbol is entered by key activation sequence of a key and a non-adjacent key that is pointed by a peripheral position of the key, the claimed language fail to clearly define what is the key activation sequence. Thus, Terracina is enough the rejected the broad claimed language.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the specific assignments of keys in claim 22 are based on the occurrence frequency of letters of alphabet) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any response to this final action should be mailed to:

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Or faxed to:

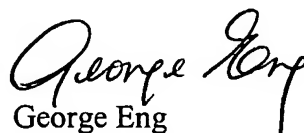
(703) 872-9314 (for Technology Center 2600 only)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, V.A., Sixth Floor (Receptionist).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Eng whose telephone number is 703-308-9555. The examiner can normally be reached on Tuesday to Friday from 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A. Kuntz, can be reached on (703) 305-4870. The fax phone number for the organization where this application or proceeding is assigned is 703-308-6306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

  
George Eng  
Primary Examiner  
Art Unit 2643